

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
19 May 2005 (19.05.2005)

PCT

(10) International Publication Number
WO 2005/044461 A1

(51) International Patent Classification⁷: **B03C 1/18**
(21) International Application Number:
PCT/IT2003/000726

(22) International Filing Date:
7 November 2003 (07.11.2003)

(25) Filing Language: Italian

(26) Publication Language: English

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

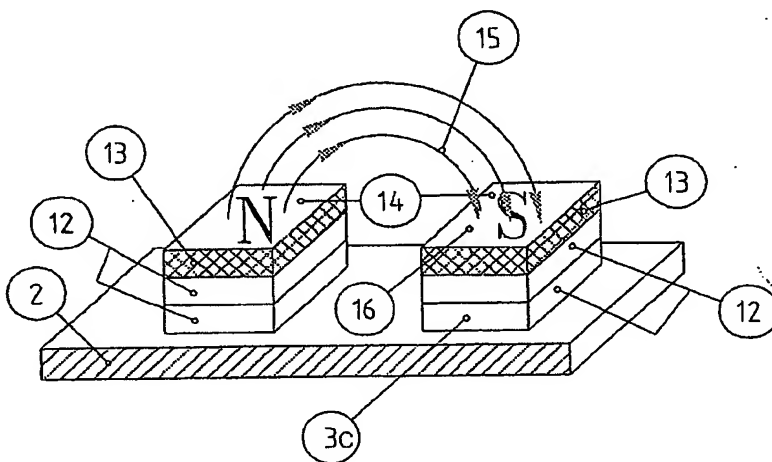
(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **MAGNETIC SEPARATOR WITH FERRITE AND RARE EARTH PERMANENT MAGNETS**



(57) Abstract: A magnetic separator with permanent magnets includes a ferromagnetic member (2) for the circuit connection between at least two magnetic poles (3C) made up of ferrite magnets (12) in the bottom portion in contact with said ferromagnetic member (2) for the circuit connection, and of rare earth magnets (13) in the top portion that represents the entrance/exit surface (14) of the magnetic flux lines (15, 16). The ratio between the effective magnetic length of the ferrite magnets (12) and of the rare earth magnets (13) is preferably 2:1, and the preferred materials are strontium ferrite for the former and iron-boron-neodymium for the latter. In this way it is possible to combine the magnetic characteristics of the two types of permanent magnets so as to make them complementary and thus enhance the attractive effectiveness of the separator both for ferromagnetic materials with high or low shape factor, and for materials with high or low and sometimes very low permeability.